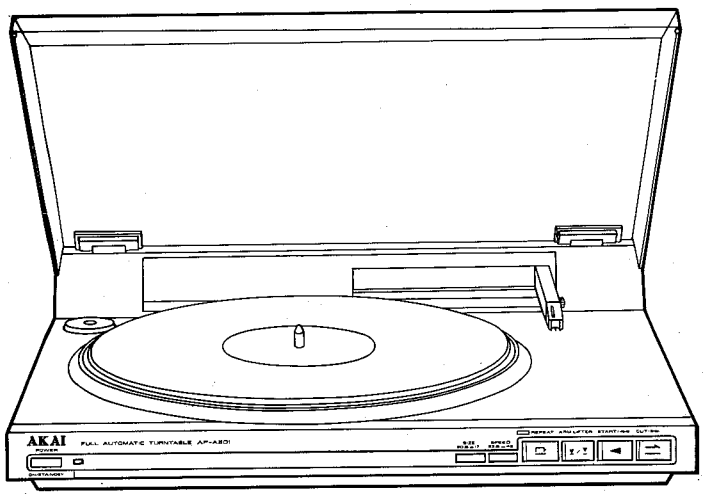
AKAI SERVICE MANUAL



FULL AUTOMATIC TURNTABLE

MODEL AP-A301/C

SPECIFICATIONS

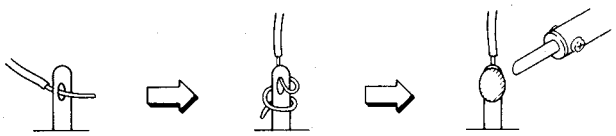
Turntable (platter)	Aluminium alloy diecast
Drive system	Belt drive
Motor	EG servo DC motor
Speed	33-1/3 & 45 rpm
Wow and flutter	0.05% WRMS
Rumble	More than 65 dB (DIN-B)
Tonearm	Static balanced type, linear tracking
Effective arm length	150 mm
Applicable cartridge	1/4P *Plug-in type
Cartridge	VM type (PC-35), included with the AP-A301C only.
Output voltage	2.5 mV
Channel separation	More than 20 dB (at 1 kHz)
Optimal stylus pressure	1.25 g
Power requirements	120V, 60Hz for USA and Canada 220V, 50Hz for European countries (except UK) 240V, 50Hz for UK and Australia 110V – 120V/220V – 240V, 50Hz/60Hz convertible for other countries
Dimensions	440 (W) × 100 (H) × 373 (D) mm (17.3 × 3.9 × 14.7 inches)
Weight	4.0 kg (8.8 lbs)

* For improvement purposes, specifications and design are subject to change without notice.

SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locatoins.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 M ohms. but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for [C] or [A], specified insulation resistance should be headphone jacks line-in-out jacks etc. more than 2.2 M ohms (ground terminals, microphone jacks).

INFORMATION

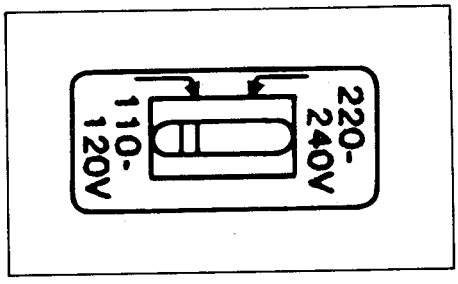
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
[A]	USA
[B]	UK
[C]	Canada
[E]	Europe (except UK)
[J]	Japan
[S]	Australia
[V]	W. Germany only
[U]	Universal Area
[Y*]	Custom version

VOLTAGE CONVERSION ([U] Model only)

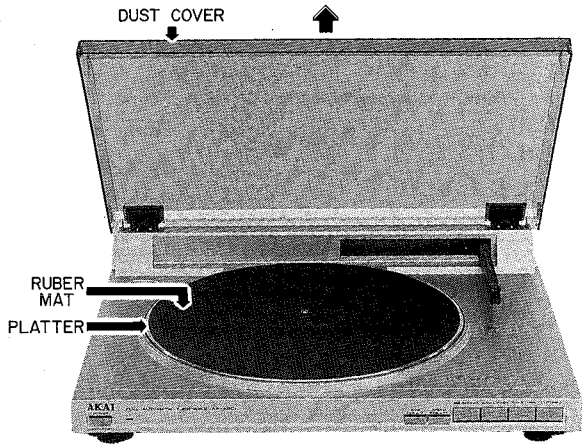
Before connecting the power cord or assembling the Platter, SET the VOLTAGE SELECTOR located on the top of the Cabinet with a screwdriver so that the correct voltage is indicated.



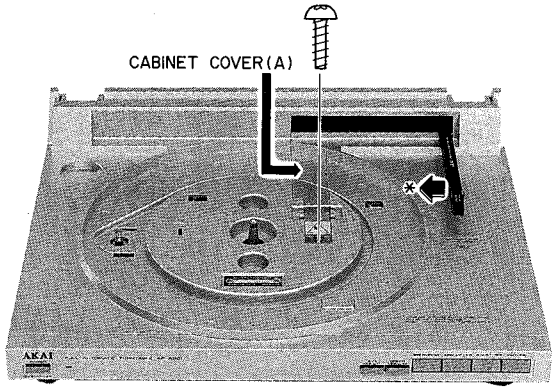
I. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs.
Reassemble in reverse order.

1. DUST COVER & PLATTER

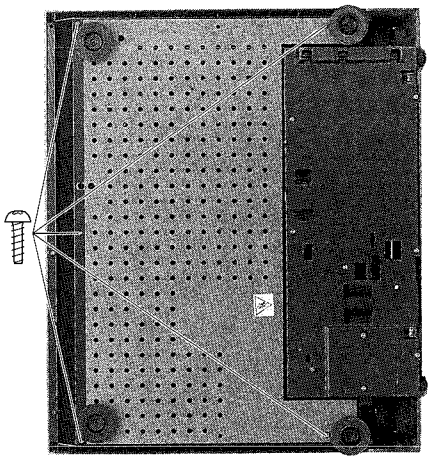


3. MAIN CHASSIS BLOCK

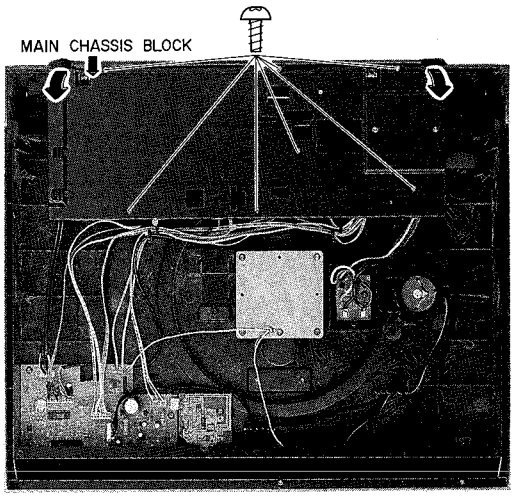


* After removed cabinet cover (A) move the tonearm to left end by pressing the START/◀◀ button.

2. BOTTOM COVER



4



II. CONTROLS

Dust Cover

Pare-poussière

SIZE (30 / 17) selector
use to select the record size

Sélecteur de dimension (SIZE 30 / 17)
A utiliser pour sélectionner la taille du disque.

Linear tracking tone arm

Bras acoustique à lecture de piste linéaire

SPEED (33 / 45) selector
use to select the record speed

Sélecteur de vitesse (SPEED 33 / 45)
A utiliser pour sélectionner la vitesse du disque.

Rubber mat
Preserves your records

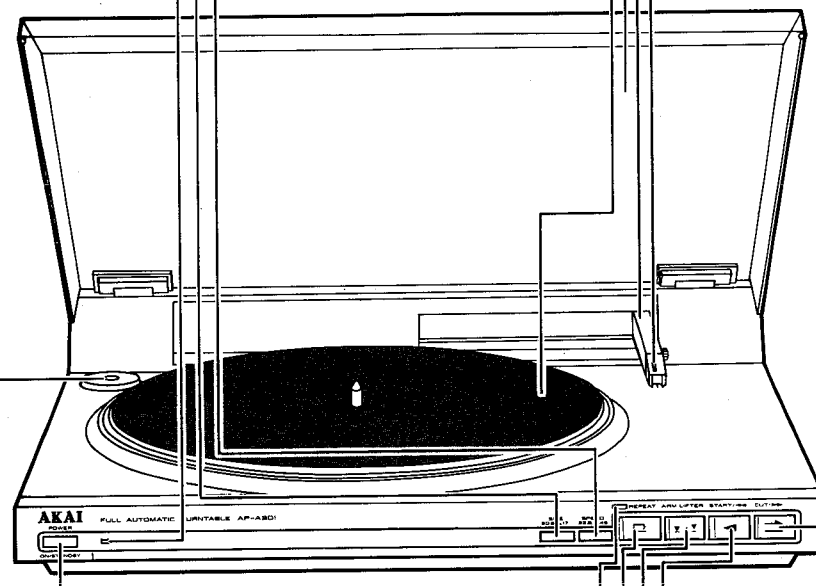
Tapis en caoutchouc
Protège vos disques.

P-mount * Cartridge
Highly responsive for excellent sound reproduction.
* The P-mount * cartridge is included with the AP-A301C only.

Cellule P-mount *
Hautement sensible pour une reproduction sonore excellente.
* La cellule P-mount * est fournie avec la table de lecture AP-A301C seulement.

POWER indicator
To indicate the **POWER ON/ STANDBY** switch is turned **ON**. The **POWER** indicator flashes when the tonearm is moving, during Manual Playback.

Indicateur d'alimentation (POWER)
Indique la mise sous tension du commutateur d'alimentation sous tension/en attente (**POWER ON/STANDBY**). L'indicateur d'alimentation (**POWER**) clignote lorsque le bras acoustique se déplace lors de reproduction manuelle.



POWER ON/STANDBY switch
To turn on and off the Akai AP-A301.
* This switch does not completely switch off the power. If you want to completely turn off the Akai AP-A301, disconnect the power cord from the timer or the household AC outlet.

Commutateur d'alimentation sous tension/ en attente (POWER ON/STANDBY)
Pour mettre sous tension et hors circuit la AP-A301 Akai.
* Ce commutateur ne met pas l'alimentation complètement hors circuit. Si vous voulez mettre la AP-A301 Akai totalement hors circuit, déconnectez le cordon secteur de la minuterie ou de la sortie secteur murale.

45 rpm adaptor holder

Adaptateur pour disque 45 tours

REPEAT indicator
Indicates the **REPEAT** button is engaged.

Indicateur de répétition (REPEAT)
Indique que la touche de répétition (**REPEAT**) est engagée.

REPEAT ( ) button
Repeatedly plays the entire record 15 times.

Touche de répétition (REPEAT)
Pour répéter 15 fois la reproduction du disque dans intégralité.

CUT (/) Arm Backward button
Stops playback and moves the tonearm manually backward.

Touche d'arrêt et de retour du bras (CUT / ( ))
Pour arrêter la reproduction et pour déplacer manuellement le bras en arrière.

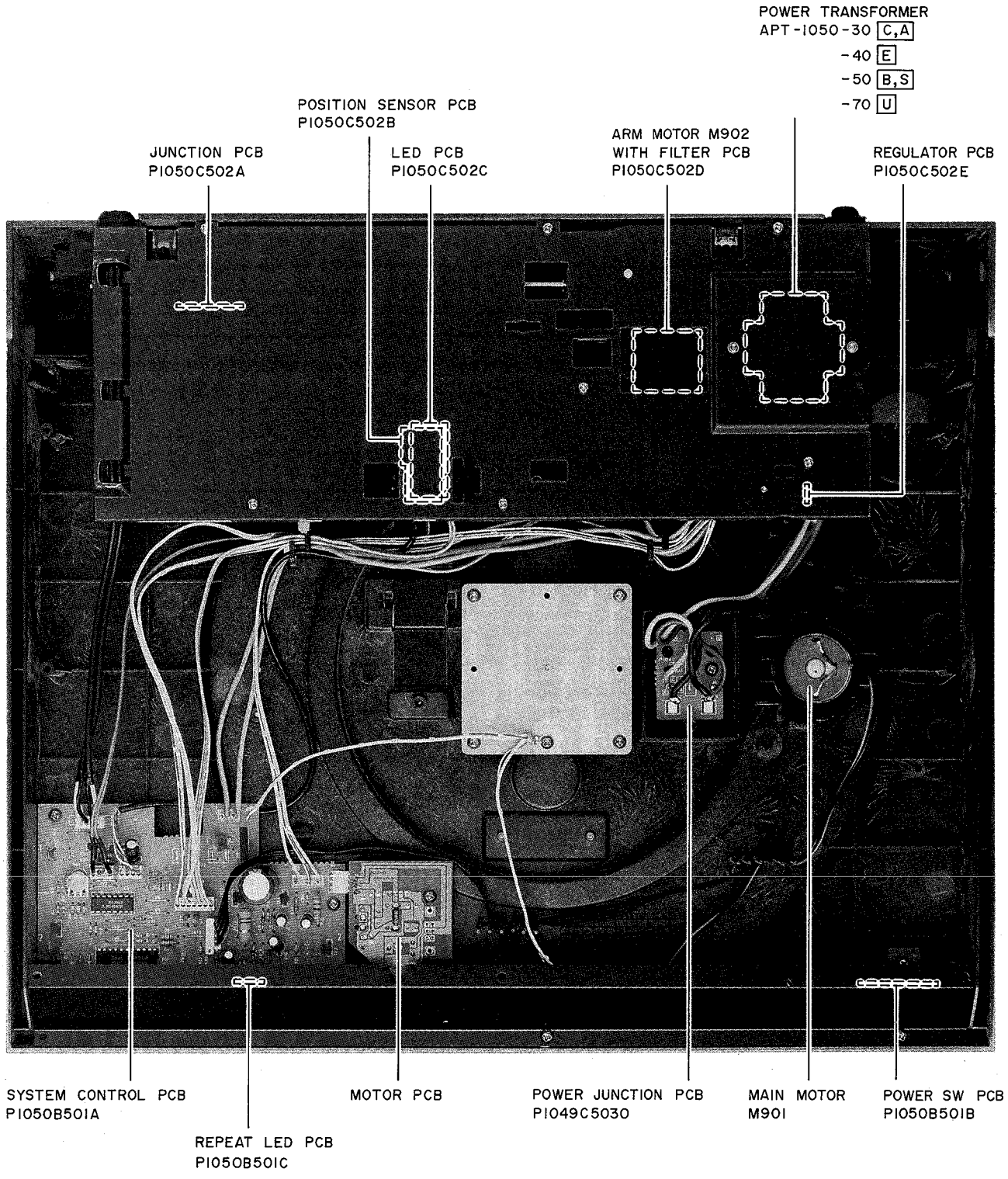
START (/) Arm Forward button
Starts auto play and moves the tonearm manually forward.

Touche de démarrage et d'avance du bras (START / ( ))
Pour démarrer la reproduction automatique et pour avancer manuellement le bras acoustique.

Electronically controlled ARM LIFTER
To raise or lower the tone arm during playback.

Elévateur du bras (ARM LIFTER) électroniquement contrôlé
Pour lever ou baisser le bras acoustique durant la reproduction.

III. PRINCIPAL PARTS LOCATION



IV. ADJUSTMENT

4-1. ORDINARY MECHANICAL ADJUSTMENT

1) Ordinary Mechanical Adjustment such as Stylus Pressure, Overhang and Tonearm Height Adjustment are not necessary since this model is equipped with a Static-Balance Linear Tracking Tonearm.
2) Stylus Pressure is pre-adjusted to 1.5 grams at the factory, and re-adjustment is not necessary in normal conditions.

4-2. TRACKING SENSOR SENSITIVITY ADJUSTMENT (Refer to Fig. 4-1)

1) Turn "ON" the power switch and connect a digital DC voltmeter between pin ③ of connector (P3) on the system control PCB and GND.
2) Adjust VR1 on the system control PCB so that the digital DC voltmeter read is DC $3.3 \pm {}^{0.2}_{0}$V.

4-3. SPEED ADJUSTMENT (Refer to Fig. 4-1)

1) Set the speed selector switch to 33-1/3 rpm and size selector switch to 30 cm positions.
2) Connect a frequency counter through the phono amplifier.
3) Play back a test record (33-1/3 rpm, 1000 Hz) and adjust VR1 on the motor PCB so that the frequency counter read is 1,000 ± 2 Hz.
4) At the above condition, change the speed selector switch to 45 rpm position and adjust VR2 on the motor PCB so that the frequency counter read is 1360 ± 2 Hz.

4-4. LEAD-IN POSITION ADJUSTMENT (Refer to Fig. 4-1)

1) Set the 30 cm (LP) record on the platter and set the size selector switch to 30 cm.
2) Press "START/◀◀" Button and confirm where the tonearm descend.
3) Turn the lead-in adjustment screw with a screw driver so that the tonearm descend at reasonable lead in position. (Turn the screw driver slowly for accuracy)

Ⓐ Turn clockwise: To set towards the arm reset side.
Ⓑ Turn counterclockwise: To set towards the spindle side.

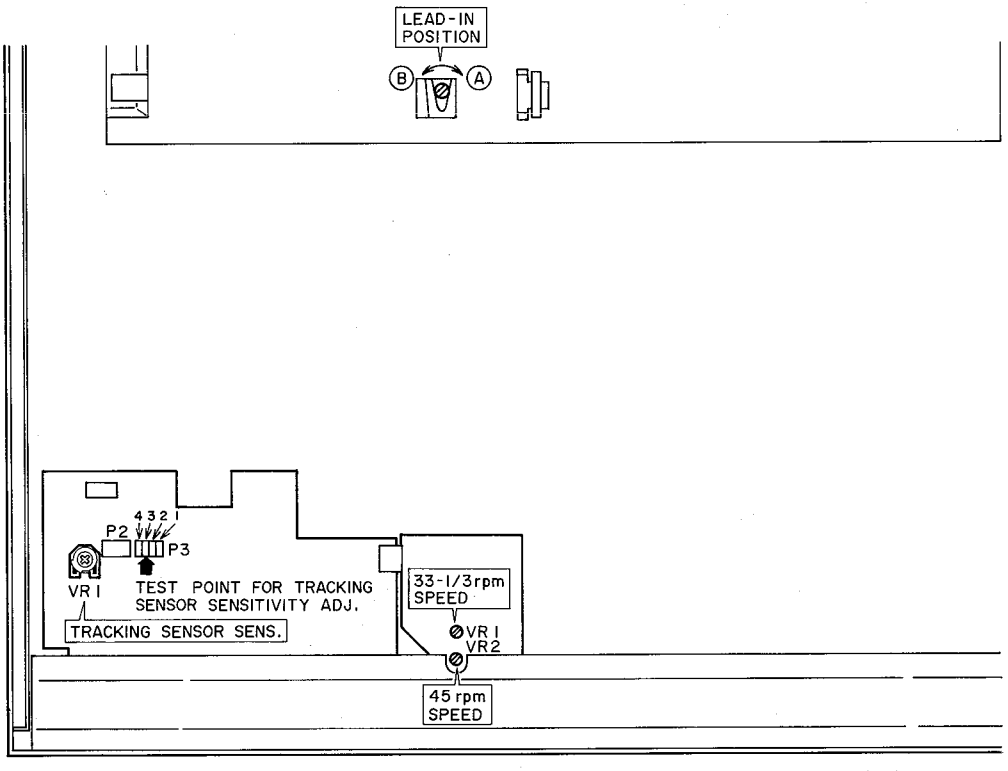


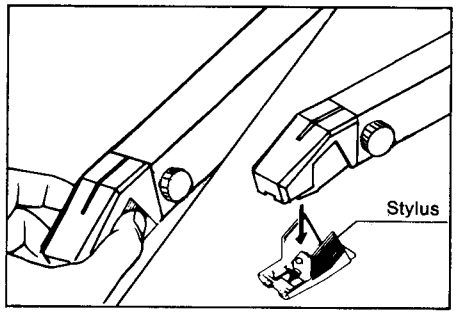
Fig. 4-1 Bottom View

V. HOW TO CHANGE THE CARTRIDGE AND STYLUS

5-1. TO CHANGE THE STYLUS

Turn the AP-A301's **POWER** switch **OFF**. Make certain that the tone arm is in the arm rest position, then squeeze the 'grip' part of the stylus and pull it down, away from the cartridge.

Insert a new stylus by snapping it into place. Avoid putting pressure on the tip of the stylus during this operation.

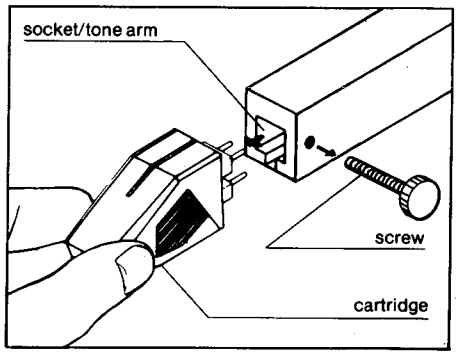


- For good sound reproduction, change the stylus after approximately 400 hours of use.
- We recommend Akai model RS-33 as a replacement stylus for AP-A301C.

NOTE:

If you have some difficulty changing the stylus with the cartridge in place, remove the cartridge from the tone arm, as shown below. Then, remove the stylus, replace it with a new one, an afterward reinsert the cartridge.

5-2. ATTACHING OR CHANGING A T4P * TYPE PLUG-IN CARTRIDGE



1) Make certain that the tone arm is in the arm rest position and the power of the AP-A301 is switched off. Remove the screw which is located directly behind the cartridge, on the side of the tone arm.
2) After removing the screw, grasp the cartridge and tone arm firmly and pull the cartridge forward, away from the tone arm, until it is free.
3) Install the new cartridge by reversing the above operation.

- You may want to replace the cartridge once per year to maintain a high level of performance or to upgrade your turntable.
- T4P * is the standard mark for plug-in cartridges. Cartridges with this mark are interchangeable. The Akai AP-A301C is equipped with a high quality **VM** moving magnet cartridge, but any cartridge with the T4P * mark can be used.

  Replace the cartridge with one which has an output voltage of approximately 2.5 mV.

VI. PARTS LIST

ATTENTION

1. When placing an order for parts, be sure to list Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.
2. Please make sure that Part No. is correct when ordering.
   If not, a part different from the one you ordered may be delivered.
3. Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20x03STL CMT
2-4	ZS-536488	BID20x08STL CMT
2-5	ZG-402895	SP CS ANGLE ADJUST

- SP (Service Parts) Classification
- A small "x" indicates that this part is not shown in the Photo or Illustration.
- This number corresponds with the individual parts index number in that figure.
- This number corresponds with the Figure Number.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
6-C1B	EC-350949	C MMY V 223M 250DC [J]
6-C1C	EC-338397	C MMY V 223M 125AC [C,A]
6-X1	EI-318384	OSC X'TAL NC-18C

- Symbols for primary destination
  [A]: AAL(U.S.A.) [S]: SAA(Australia)
  [B]: BEAB(England) [U]: U/T(Universal Area)
  [C]: CSA(Canada) [V]: VDE(W. Germany)
  [E]: CEE(Europe) [Y]: Custom Version
  [J]: JPN(Japan)
- SP (Service Parts) Classification
- These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

WARNING

⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS

AVERTISSEMENT

⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT

RECOMMENDED SPARE PARTS LIST

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

REF. NO.		PART NO.	DESCRIPTION
1		BM-354988	MOTOR BFD2R16 W/MOTOR PCB
2	N	BM-362892	MOTOR MMN-5C2RP1
3	N	BT-362885	⚠ TRANS POWER APT-1050-30 [A,C]
4	N	BT-362886	⚠ TRANS POWER APT-1050-40 [E]
5	N	BT-362887	⚠ TRANS POWER APT-1050-50 [B,S]
6	N	BT-362888	⚠ TRANS POWER APT-1050-70 [U]
7		ED-322238	⚠ D SILICON 1B4B41 100/1.0A
8		ED-337413	D LED SLP-135B RED
9	N	ED-362903	D LED SLP-151D-50 RED
10		ED-344280	D SILICON H GMA-01-FY2 F05
11	N	ED-362911	D ZENER H 05AZ13 Y
12		ED-361267	D ZENER H 05AZ5.1 X
13	N	ED-365168	D ZENER H 05AZ9.1 X
14		ED-362910	D ZENER H05AZ5.6 X
15		EF-355374	⚠ FUSE BET T 500MA 250V [B]
16		EF-593706	⚠ FUSE SEMKO T 500MA 250V [E,S]
17		EI-357879	IC LA5512
18		EI-359733	IC M54547P
19		EI-359735	IC P1049A-1842
20	N	EP-362889	SOLENOID 0730PLT 45OHMS 12V
21		ES-337898	⚠ SW SLIDE 00120163 01-2 [U]
22	N	ES-362882	SW PUSH SPUY241 2 THROW
23		ES-358768	SW SLIDE SSY322-059
24	N	ES-362883	SW TACT KHH151951
25		ES-345470	SW TACT SKECAA031A
26		ET-362113	⚠ TR 2SD1406 Y,GR
27		ET-344472	PHOTO SENSOR ON1128AK
28		ET-357162	TR FET 2SJ74 GR,BL,V
29	N	ET-362890	TR PHOT PH-102
30		ET-330225	TR 2SC1815 BL
31		ET-306719	TR 2SC2236 O,Y
32		EV-315416	R S-FIX H D8 3P 103
33		EV-315540	R S-FIX H D8 3P 502
34	N	EV-365244	R S-FIX H V8EK-PV 3P 303
35		MB-355119	BELT EP
36		MB-344231	BELT 1.0×D33.3CR HS60
37		MZ-349224	GEAR TRACKING
38	N	MZ-B362267	GEAR WORM PART (B)

NOTE: N: New Parts

1. PC BOARD BLOCK

REF. NO.	PART NO.	DESCRIPTION
1-1	BA-P1050A020A	PC SYSCON BLK AP-A301 [U,A,C]
1-1A	BA-P1050A020B	PC SYSCON BLK AP-A301 [E,B,S]

NOTE: PC SYSCON BLK consists of following PC BOARDS.

- SYSTEM CONTROL PC BOARD
- REPEAT LED PC BOARD
- POWER SW PC BOARD

2. SYSTEM CONTROL PC BOARD

REF. NO.	PART NO.	DESCRIPTION
2-C20	EC-316188	C EC V CUT SM 102M 25DC
2-D1 to 3	ED-344280	D SILICON H GMA-01-FY2 F05
2-D4	ED-362910	D ZENER H 05AZ5.6 X
2-D5	ED-361267	D ZENER H 05AZ5.1 X
2-D6	ED-365168	D ZENER H 05AZ9.1 X
2-D7	ED-362911	D ZENER H 05AZ13 Y
2-D8	ED-322238	⚠ D SILICON 1B4B41 100/1.0A
2-D9	ED-344280	D SILICON H GMA-01-FY2 F05
2-IB1	EH-359737	COMP R EXB-P87 223K
2-IC1	EI-359735	IC P1049A-1842
2-IC2	EI-359733	IC M54547P
2-L1	EO-345922	COIL FIX 1 LAL03KH 470K
2-R8	ER-331627	⚠ R OMF H S15 FS 1W 910J
2-R32	ER-362914	⚠ R OMF H S15 FS 1W 820J
2-R36	ER-333064	⚠ R OMF H S20 FS 2W 820J
2-R37, 38	ER-318316	R MF H F10 1/4W 2201F
2-SW1	ES-362882	SW PUSH SPUY241 2 THROW (SIZE)
2-TR1	ET-330225	TR 2SC1815 BL
2-TR2,3	ET-306719	TR 2SC2236 O,Y
2-TR4	ET-330225	⚠ TR 2SC1815 BL
2-TR5,6	ET-357162	TR FET 2SJ74 GR,BL,V
2-TS1 to 4	ES-362883	SW TACT SKHHLM [PLAY]
2-VR1	EV-365244	R S-FIX H V8EK-PV 3P 303
2-F1	EF-593706	⚠ FUSE SEMKO T 500MA 250V [E,S]
2-F1A	EF-355374	⚠ FUSE BET T 500MA 250V [B]

3. MOTOR PC BOARD

REF. NO.	PART NO.	DESCRIPTION
3-IC1	EI-357879	IC LA5512
3-SW1	ES-358768	SW SLIDE SSY322-059 (SPEED)
3-VR1	EV-315540	R S-FIX H D8 3P 502 (33-1/3 RPM)
3-VR2	EV-315416	R S-FIX H D8 3P 103 (45 RPM)

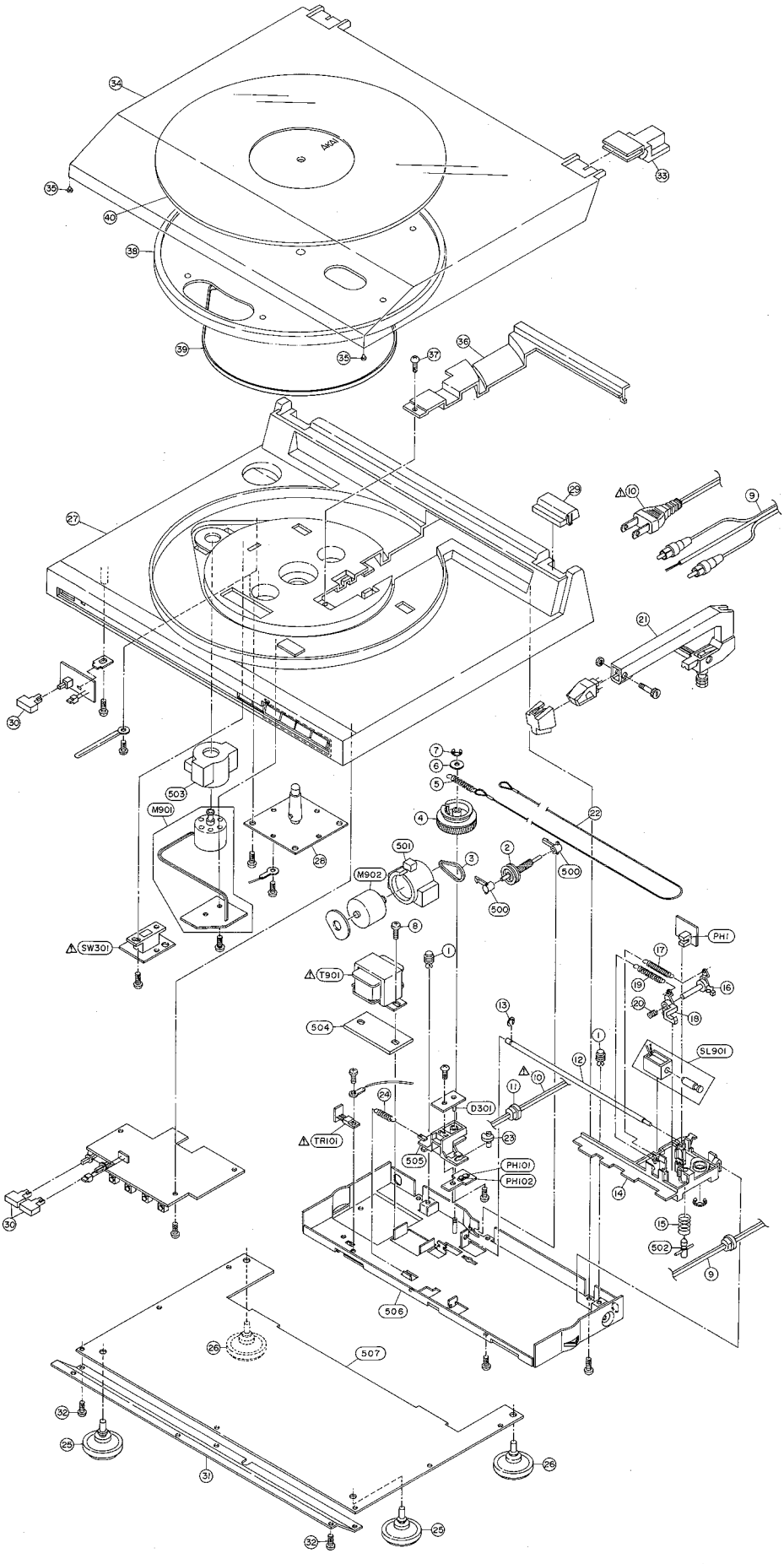
4. REPEAT LED PC BOARD

REF. NO.	PART NO.	DESCRIPTION
4-D201	ED-362903	D LED SLP-151D-50 RED (REPEAT)

5. POWER SW PC BOARD

REF. NO.	PART NO.	DESCRIPTION
5-D101	ED-362903	D LED SLP-151D-50 RED
5-TS101	ES-345470	SW TACT SKECAA031A

FINAL ASSEMBLY BLOCK



6. FINAL ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
		CHASSIS MAIN BLOCK
6-1	MR-366384	PULLEY 2447-9-9-903-99
6-2	MZ-B362267	GEAR WORM PART (B)
6-3	MB-344231	BELT 1.0×D33.3CR HS60
6-4	MZ-349224	GEAR TRACKING
6-5	ZG-357752	SP T5-04.0/0.40-16.0 T5-111
6-6	ZW-659755	PW43×110×050NYL
6-7	ZW-270101	RING E 300SUP CMT
6-8	ZS-300519	ST PAN40×08STL CMT
6-9	EW-363200	CORD 2P AUDIO CORD [EXCEPT A]
6-9A	EW-363201	CORD 2P AUDIO CORD UL [A]
6-10	EW-374894	⚠ AC CORD 2 CORES VM-0129A, VFF U/T [U]
6-10A	EW-207742	⚠ AC CORD 2 CORES VM-0238, SPT-1 UC [A,C]
6-10B	EW-336923	⚠ AC CORD 2 CORES KP-419C, LTCE-2F EV [E]
6-10C	EW-346249	⚠ AC CORD 2 CORES LCFL2×0.75 B [B]
6-10D	EW-347898	⚠ AC CORD 2 CORES VM-0436,LCFL S [S]
6-11	EZ-345815	CORD STOPPER CM-22A [U,C,A]
6-11A	EZ-345816	CORD STOPPER CM-22B [E,B,S]
6-12	MS-362658	GUIDE RAIL
6-13	ZW-342350	RING E SPECIAL
6-14	MZ-362719	CHASSIS TRACKING
6-15	ZG-362661	SP PUSH ELEVATION
6-16	TP-366196	LEVER ELEVATION (A)
6-17	ZG-312948	SP T1-03.2/0.29-20.0 T1-064
6-18	TP-366198	LEVER ELEVATION (B)
6-19	ZG-312926	SP T1-03.2/0.20-16.0 T1-043
6-20	ZG-366398	SP PUSH FRICTION
6-21	TP-362899	TONE ARM ARM-301
6-22	EZ-362664	STRING WIRE
6-23	TP-358710	CAM PU
6-24	ZG-358343	SP T6-04.0/0.40-12.5 T6-109
6-D301	ED-337413	D LED SLP-135B RED (LED PC BOARD)
6-M902	BM-362892	MOTOR MMN-5C2RP1
6-PH1	ET-344472	DETECTOR ON1128AK (JUNCTION PC BOARD)
6-PH101, 2	ET-362890	TR PHOT PH-102 (POSITION SENSOR PC BOARD)
6-SL901	EP-362889	SOLENOID 0730PLT 45OHMS 12V
6-TR101	ET-362113	⚠ TR 2SD1406 Y,GR (REGULATOR PC BOARD)
6-T901	BT-362888	⚠ TRANS POWER APT-1050-70 [U]
6-T901A	BT-362885	⚠ TRANS POWER APT-1050-30 [A,C]
6-T901B	BT-362886	⚠ TRANS POWER APT-1050-40 [E]
6-T901C	BT-362887	⚠ TRANS POWER APT-1050-50 [B,S]
		FINAL ASSEMBLY BLOCK
6-25	SA-332577	INSULATOR
6-26	SZ-332577D	INSULATOR (D)
6-27	BC-B365403-A	CABINET (A) PART
6-27-B	BC-B365404-A	CABINET (B) PART
6-28	TP-B362666	CHASSIS SPINDLE PART
6-29	SC-362679A	COVER HINGE (A) [AP-A301-L, AP-A301-CL ONLY]
6-29-B	SC-362679B	COVER HINGE (B) [AP-A301-L, AP-A301-CL ONLY]
6-30	SK-358063A	KNOB PUSH
6-30-B	SK-358063B	KNOB PUSH-B
6-31	SC-362677	COVER FRONT
6-32	ZS-351886	PT BR30×10STL BNI
6-33	TP-362893	HINGE EMH 30316 [AP-A301, AP-A301-C ONLY]
6-34	BC-B362675	DUST COVER PAPT [AP-A301, AP-A301-C ONLY]
6-35	MB-343057	CUSHION COVER [AP-A301, AP-A301-C ONLY]
6-36	SC-362640A	COVER CABINET (A)
6-36-B	SC-362640B	COVER CABINET-B
6-37	ZS-310984	PT BR30×08STL CMT
6-38	TP-348321	PLATTER
6-39	MB-355119	BELT EP
6-40	TP-348266A	TABLE SHEET A [EXCEPT A]
6-40A	TP-348266B	TABLE SHEET B [A]
6-M901	BM-354988	MOTOR BF D2 R16 W/MOTOR PCB
6-SW301	ES-337898	⚠ SW SLIDE 00120163 01-2 [U]

SYMBOL FOR COLOR VARIATION

NON : STANDARD COLOR

-B : BLACK

OPTIONAL ACCESSORIES

STYLUS : RS-33

CARTRIDGE : PC-35

INDEX

PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.
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ABBREVIATIONS (TURNTABLE)

ABBREVIATION	EXPLANATION
ADJ	ADJust, or ADJustment
CH	CHannel
FWD	FoWarD
"H"	High
"L"	Low
LED	Light Emitting Diode
MI-COM	MIcro COMputer
PCB	Printed Circuit Board
REV	REVerse
SENS	SENSor, or SENSitivity
SYSCON	SYStem CONtrol
SW	SWitch
T.S	Tracking Sensor
VR	Variable Resistor

AKAI ELECTRIC CO., LTD.

12-14, 2-Chome, Higashi-Kojiya, Ohta-Ku, Tokyo, Japan

TEL: Tokyo (742) 5111 CABLE: HIFIAKAI TOKYO TELEX: J26261

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350 Printed in Japan

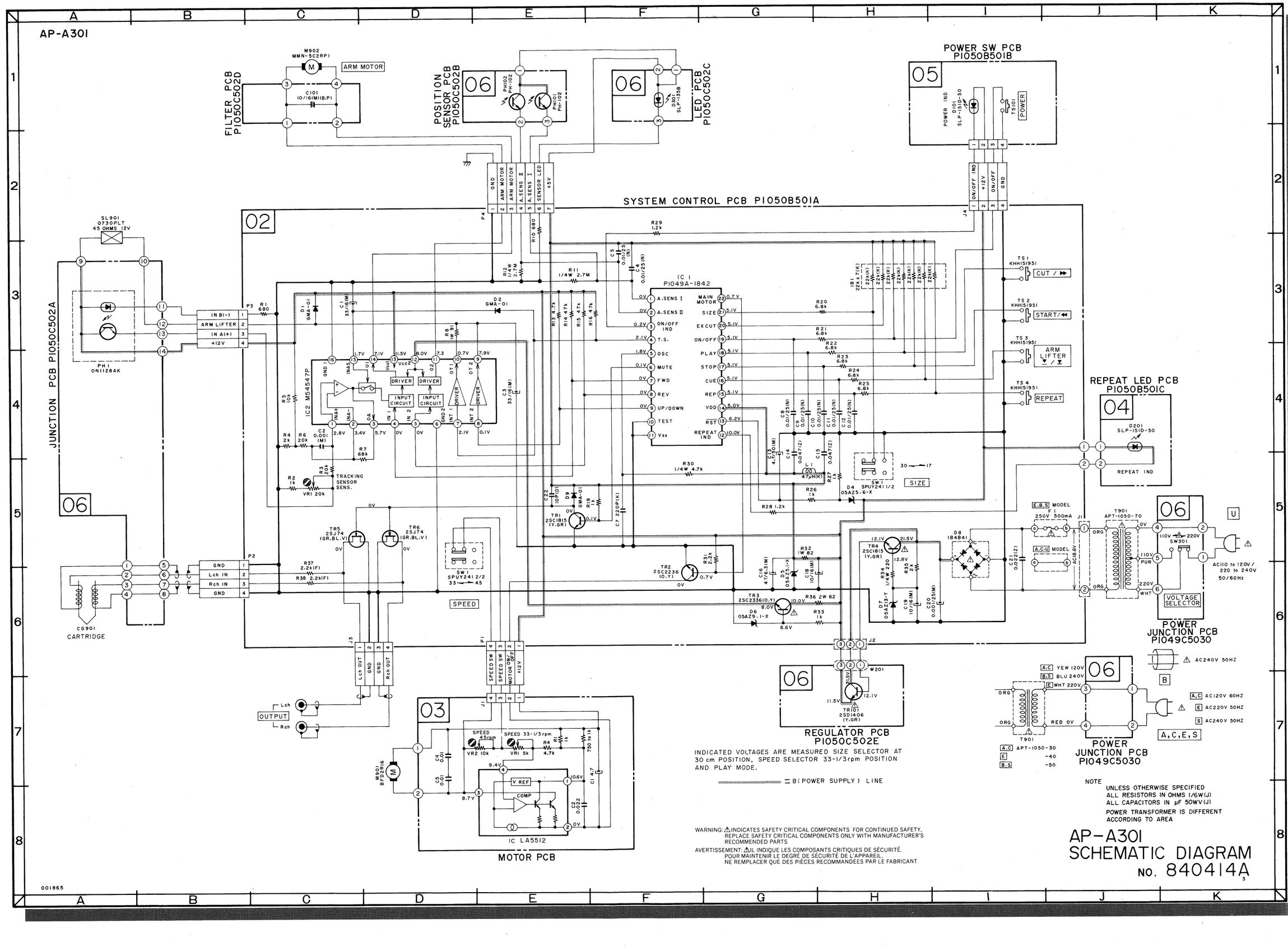
AKAI

MODEL AP-A301/C

SCHEMATIC DIAGRAM AND PC BOARDS

1. SCHEMATIC DIAGRAM 2
2. FILTOR PCB, JUNCTION PCB, LED PCB, POSITION PCB, POWER PCB, REGULATOR PCB, REPEAT LED PCB, SYSTEM CONTROL PCB 3
3. BLOCK DIAGRAM 4

AP-A301



INDICATED VOLTAGES ARE MEASURED SIZE SELECTOR AT 30 cm POSITION, SPEED SELECTOR 33-1/3rpm POSITION AND PLAY MODE.

⏚ B(POWER SUPPLY) LINE

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50WV(J)
POWER TRANSFORMER IS DIFFERENT ACCORDING TO AREA

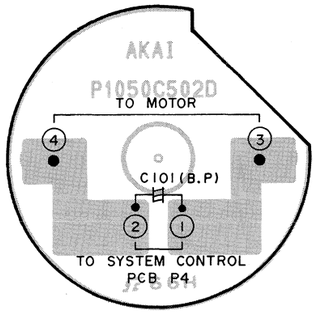
WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT

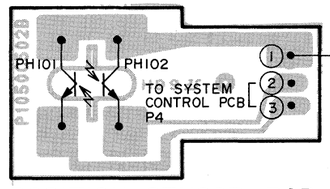
AP-A301 SCHEMATIC DIAGRAM

NO. 840414A 3

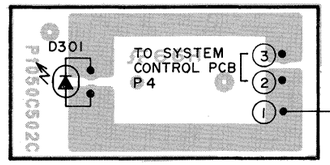
001865



FILTOR PCB
P1050C502D

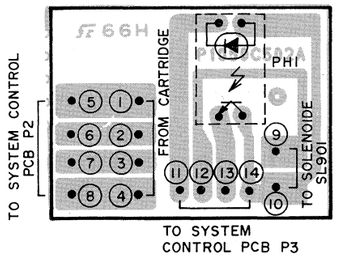


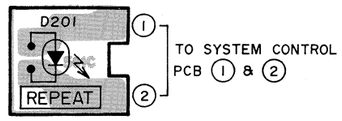
POSITION SENSOR PCB
P1050C502B



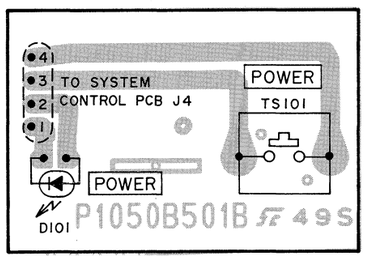
LED PCB P1050C502C

JUNCTION PCB
P1050C502A



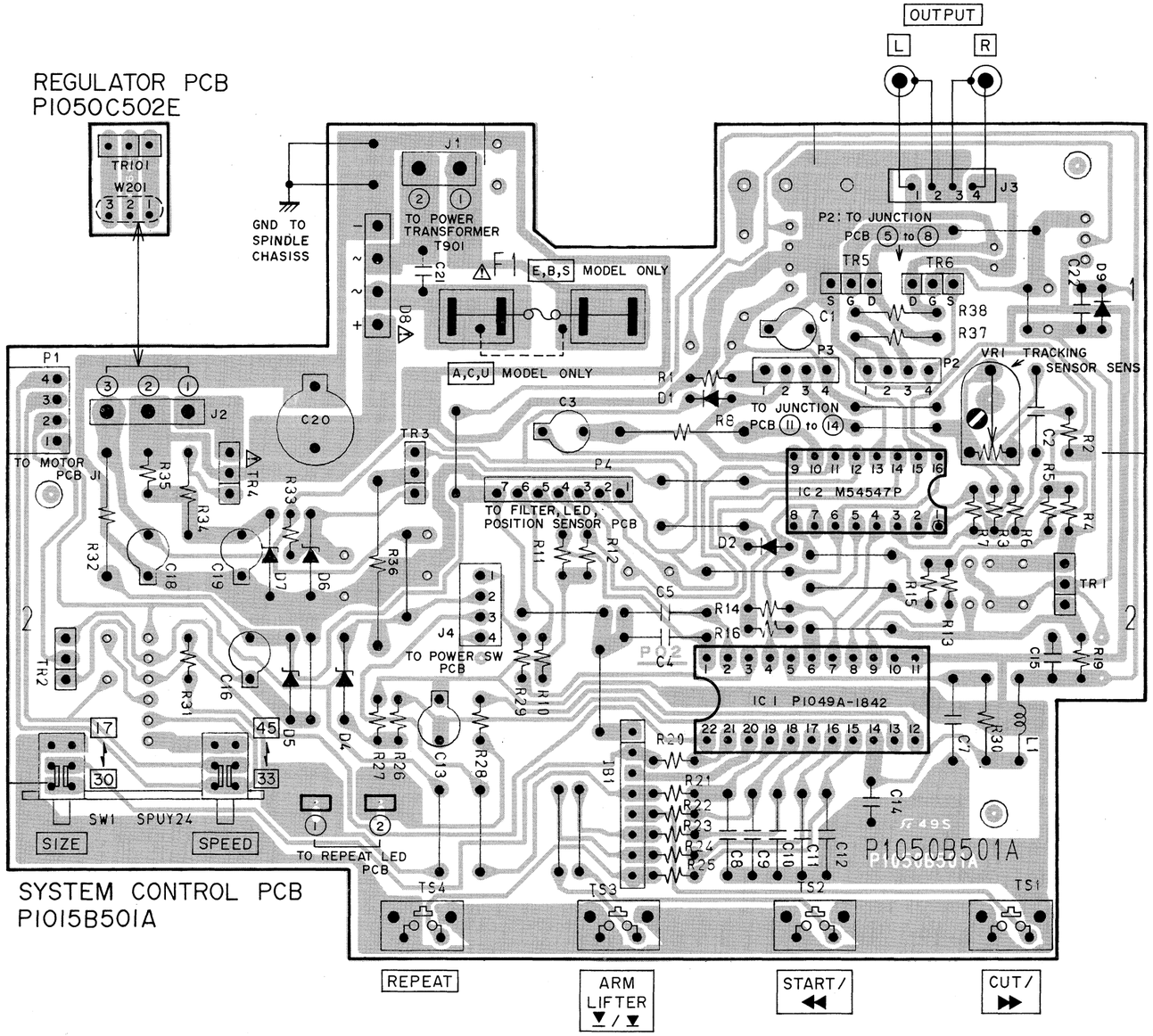


REPEAT LED PCB
P1050B501C

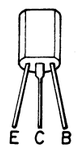


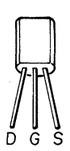
POWER SW PCB
P1050B501B

REGULATOR PCB
P1050C502E

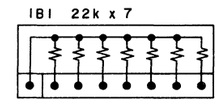


SYSTEM CONTROL PCB
P1015B501A





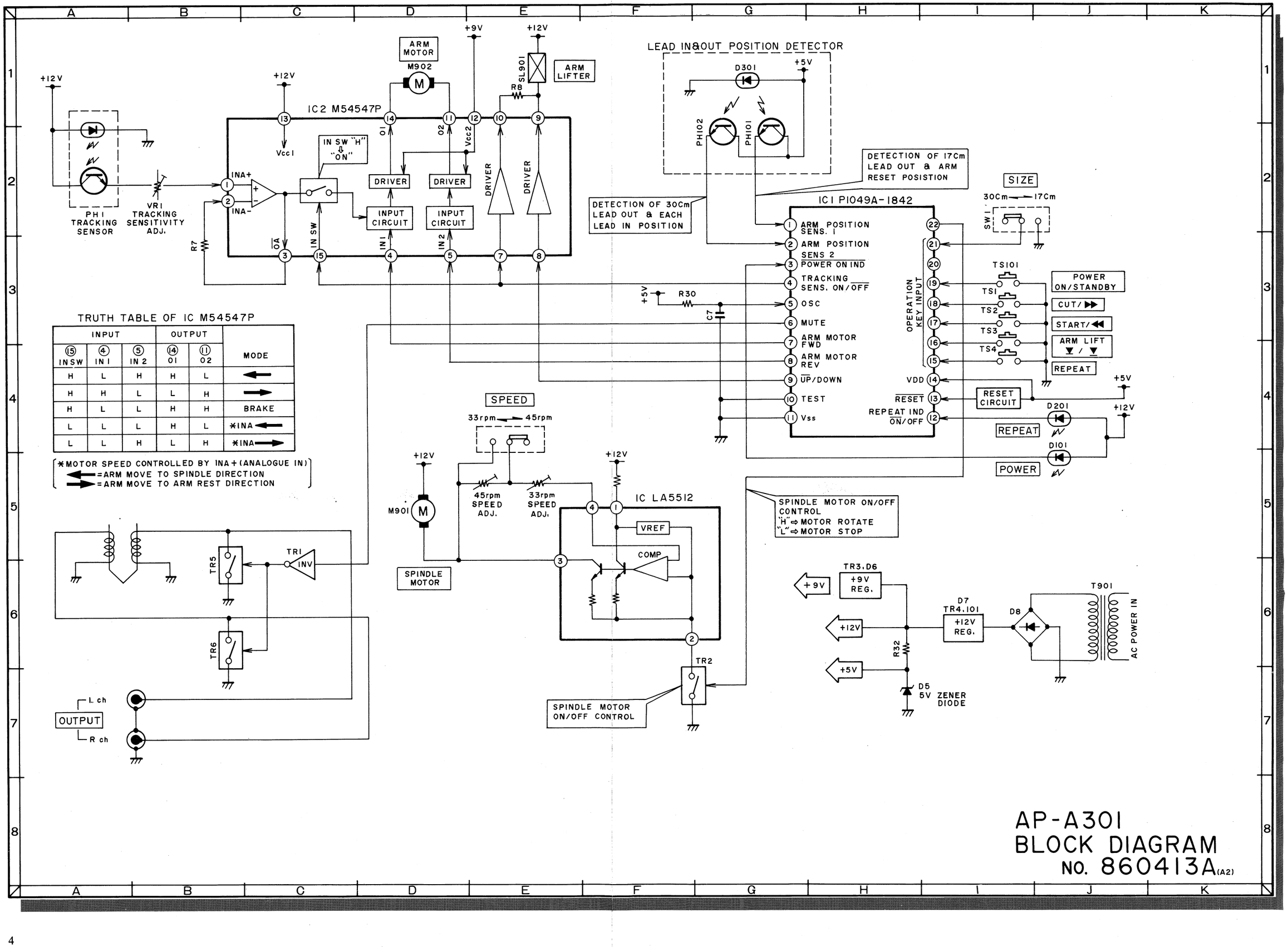
B = NPN TRANSISTOR



TR1,4 ---- 2SC1815(Y,GR)
TR2,3 ---- 2SC2236(O,Y)
TR5,6 ---- 2SJ74(GR,BL,V)

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÈCES RECOMMANDEES PAR LE FABRICANT



TRUTH TABLE OF IC M54547P

INPUT			OUTPUT		MODE
⑮ INSW	④ IN1	⑤ IN2	⑭ O1	⑪ O2	
H	L	H	H	L	←
H	H	L	L	H	→
H	L	L	H	H	BRAKE
L	L	L	H	L	*INA ←
L	L	H	L	H	*INA →

*MOTOR SPEED CONTROLLED BY INA+ (ANALOGUE IN)
←=ARM MOVE TO SPINDLE DIRECTION
→=ARM MOVE TO ARM REST DIRECTION

AP-A301
BLOCK DIAGRAM
NO. 860413A(A2)